



## MATERIAL SAFETY DATA SHEET (MSDS)

### SECTION 1: Identification

#### 1.1 Product identifiers

**Product Name :** 1,3-Dibromo-5,5-dimethylhydantoin  
**Cat No.:** AC169540000; AC169540025; AC169540250; AC169545000  
**CAS No. :** 77-48-5

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended uses :** Laboratory chemicals  
**Uses advised against:** Food, drug, pesticide or biocidal product use.

#### 1.3 Details of the supplier of the safety data sheet

**Company :** Krishna Solvechem Limited.  
B/503, Sahayog, S. V. Road,  
Kandivali (West), Mumbai – 400067. India.  
**Telephone :** +91-22-6123 0222  
**Email :** exports@kscl.co.in

#### 1.4 Emergency telephone number

**Emergency Phone :** +91-8657457330

### SECTION 2: Hazards identification

#### 2.1 Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Oxidizing solids	(Category 2)
Acute oral toxicity	(Category 4)
Skin Corrosion/Irritation	(Category 1 B)
Serious Eye Damage/Eye Irritation	(Category 1)

#### 2.2 Label elements

**Pictogram :**



**Signal word**

Danger

**Hazard statement (s)**

Causes severe skin burns and eye damage  
May intensify fire, oxidizer



Harmful if swallowed

**Precautionary statement (s)**

**Prevention**

Wash face, hands and any exposed skin thoroughly after handling

Wear protective gloves/protective clothing/eye protection/face protection

Do not eat, drink or smoke when using this product

Avoid breathing dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

Keep away from heat/sparks/open flames/hot surfaces. - No smoking

Keep/store away from clothing/ other combustible materials

Take any precaution to avoid mixing with combustibles

**Inhalation :**

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing Call a POISON CENTER or doctor/physician if you feel unwell

**IF ON SKIN (or hair):**

If skin irritation occurs: Get medical advice/attention

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower

Wash contaminated clothing before reuse

**Eyes:**

IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue

rinsing If eye irritation persists: Get medical advice/attention

**Fire**

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

**Ingestion**

Rinse mouth. Do NOT induce vomiting.

**Storage:**

Store locked up



<b>Hazards not otherwise classified (HNOC)</b>	<b>Disposal:</b> Dispose of contents/container to an approved waste disposal plant
	Very toxic to aquatic life

### SECTION 3: Composition / information on ingredients

**3.1**

Component	CAS-No	Weight %
2,4-Imidazolidinedione, 1,3-dibromo-5,5-dimethyl-	77-48-5	98

### SECTION 4: First aid measures

**4.1 Description of first aid measures**

<b>If inhalation :</b>	Remove from exposure, lie down. Remove to fresh air. If not breathing, give artificial respiration. Immediate medical attention is required.
<b>In case of skin contact :</b>	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
<b>In case of eye contact :</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
<b>Ingestion :</b>	Do NOT induce vomiting. Call a physician immediately
<b>4.2 Most important symptoms and effects :</b>	Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation
<b>4.3 Notes to Physician :</b>	Treat symptomatically

### SECTION 5: Firefighting effects

**5.1 Extinguishing media**

<b>Suitable extinguishing media :</b>	Carbon dioxide (CO <sub>2</sub> ), dry chemical, alcohol-resistant foam.
<b>Unsuitable Extinguishing Media :</b>	No information available
<b>5.2 Flash Point :</b>	155 °C / 311 °F
<b>Method :</b>	No information available



<b>Autoignition Temperature:</b>	No information available								
<b>Explosion Limits:</b>									
<b>Upper</b>	No data available								
<b>Lower</b>	No data available								
<b>Sensitivity to Mechanical Impact</b>	No information available								
<b>Sensitivity to Static Discharge</b>	No information available								
<b>Specific Hazards Arising from the Chemical :</b>	Oxidizer: Contact with combustible/organic material may cause fire. Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition. May ignite combustibles (wood paper, oil, clothing, etc.). Do not allow run-off from fire-fighting to enter drains or water courses.								
<b>Hazardous Combustion Products :</b>	Carbon monoxide (CO). Carbon dioxide (CO <sub>2</sub> ). Hydrogen halides Bromine, Nitrogen oxides(NO <sub>x</sub> )								
<b>5.4 Protective Equipment and Precautions for Firefighters:</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.								
<b><u>NFPA:</u></b>	<table border="1"> <thead> <tr> <th>Health</th> <th>Flammability</th> <th>Instability</th> <th>Physical hazards</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>1</td> <td>0</td> <td>OX</td> </tr> </tbody> </table>	Health	Flammability	Instability	Physical hazards	3	1	0	OX
Health	Flammability	Instability	Physical hazards						
3	1	0	OX						

## SECTION 6: Accidental release measures

<b>6.1 Personal precautions, protective equipment and emergency procedures</b>	Ensure adequate ventilation. Use personal protective equipment as required.
<b>6.2 Environmental precautions</b>	Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.
<b>6.3 Methods and materials for containment and cleaning up</b>	Sweep up and shovel into suitable containers for disposal. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Sweep up and shovel into suitable containers for disposal.

## SECTION 7: Handling and storage

<b>7.1 Precautions for safe handling</b>	Do not breathe dust. Do not get in eyes, on skin, or on clothing. Handle product only in closed system or provide appropriate exhaust ventilation. Keep away from clothing and other combustible materials.
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## 7.2 Conditions for safe storage

Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Do not store near combustible materials. Corrosives area. Keep containers tightly closed in a dry, cool and well-ventilated place. Incompatible Materials. Strong oxidizing agents. Strong acids. Strong bases. Alcohols. Strong reducing agents. Combustible material.

## SECTION 8: Exposure controls/personal protection

### 8.1 Exposure Guidelines

This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

#### Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

### 8.2 Exposure controls

#### Personal protective equipment -

##### Eye / Face protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

##### Skin protection and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

##### Respiratory protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

##### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice..

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

a) Appearance	Light cream solid powder
b) Odour	Odorless
c) Odour Threshold	No information available
d) pH	No information available
e) Melting point / freezing point	187 - 191 °C / 368.6 - 375.8 °F
f) Initial boiling point and	No information available - 376 - 708.8



<b>boiling range</b>	
<b>g) Flash point</b>	155 °C / 311 °F
<b>h) Evaporation rate</b>	No information available
<b>i) Flammability (solid, gas)</b>	Not applicable
<b>j) Upper/lower flammability or explosive limits</b>	No data available No data available
<b>k) Vapour pressure</b>	No data available
<b>l) Vapour density</b>	Not applicable
<b>m) Specific Gravity</b>	No information available
<b>n) Solubility</b>	No information available
<b>o) Partition coefficient: n octanol/water</b>	No data available
<b>p) Auto-ignition temperature</b>	No information available
<b>q) Decomposition temperature</b>	> 190°C.
<b>r) Viscosity</b>	Not applicable
<b>s) Molecular formula</b>	C5 H6 Br2 N2 O2
<b>t) Molecular Weight</b>	285.91

### SECTION 10: Stability and Reactivity

<b>10.1 Reactive Hazard :</b>	Yes
<b>10.2 Chemical stability :</b>	Stable under normal conditions. Moisture sensitive. Oxidizer: Contact with combustible/organic material may cause fire.
<b>10.3 Possibility of hazardous reactions :</b>	None under normal processing.
<b>10.4 Conditions to avoid :</b>	Exposure to light. Incompatible products. Exposure to moist air or water. Combustible material. Excess heat
<b>10.5 Incompatible materials:</b>	Strong oxidizing agents, Strong acids, Strong bases, Alcohols, Strong reducing agents, Combustible material
<b>10.6 Hazardous decomposition products :</b>	Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Hydrogen halides Bromine, Nitrogen oxides (NO)
<b>10.7 Hazardous Polymerization</b>	Hazardous polymerization does not occur



## SECTION 11: Toxicological information

### 11.1

#### Information on toxicological effects

#### Acute toxicity:

#### Product Information:

#### Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
2,4-Imidazolidinedione, 1,3-dibromo-5,5-dimethyl-	LD50 = 250 mg/kg ( Rat )	Not listed	Not listed

**Toxicologically Synergistic Products** No information available

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Irritation :** No information available

**Sensitization:** No information available

**Carcinogenicity :** The table below indicates whether each agency has Any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
2,4-Imidazolidine dione, 1,3-dibromo-5,5-dimethyl-	77-48-5	Not listed	Not listed	Not listed	Not listed	Not listed

**Mutagenic Effects:** No information available.

**Reproductive Effects:** No information available.

**Developmental Effects :** No information available.

**Teratogenicity:** No information available.

**STOT - single exposure :** None known

**STOT - repeated exposure:** None known

**Aspiration hazard :** No information available.

**Symptoms / effects, both acute and delayed:** Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

**Endocrine Disruptor Information :** No information available

**Other Adverse Effects :** The toxicological properties have not been fully investigated.



## SECTION 12: Ecological information

### 12.1

#### Ecotoxicity:

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

**12.2 Persistence and degradability:** Insoluble in water

**Bioaccumulation/  
Accumulation** No information available

**12.3 Mobility:** Is not likely mobile in the environment due its low water solubility.

## SECTION 13: Disposal considerations

**13.1 Waste treatment methods:** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## SECTION 14: Transport information

### 14.1 UN number :

DOT : UN1479                      TDG : UN1479  
IATA : UN1479                    IMDG : UN1479

### 14.2 UN proper shipping name

**IMDG :** Oxidizing solid, corrosive, n. o. s.

**IATA :** OXIDIZING SOLID, CORROSIVE, N. O. S.\*

**14.3 Transport hazard class(es)**    DOT: 5.1                      TDG : 5.1                    IMDG: 5.1                    IATA: 5.1

**14.4 Packaging group:**                      DOT: II                      TDG: II                      IMDG: II                      IATA: II

## SECTION 15: Regulatory information

### 15.1 United states of America Inventory:

Component	CAS-No	TSCA	TSCA Inventory notification Active/Inactive	TSCA - EPA Regulatory Flags
2,4-Imidazolidinedione, 1,3-dibromo-5,5-dimethyl-	77-48-5	X	ACTIVE	-

**Legend:**





**TSCA - Toxic Substances Control Act, (40 CFR Part 710)**

X - Listed

'-' - Not Listed

**TSCA 12(b) - Notices of Export** Not applicable

**International Inventories:**

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia(AICS), China (IECSC), Korea (ECL).

Component	CAS-No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
2,4-Imidazolidinedione, 1,3-dibromo-5,5-dimethyl-	77-48-5	X	-	201-030-9	X	X	X	X	X	97-3-8

**U.S. Federal Regulations**

**SARA 313**

Not applicable

**SARA 311/312 Hazard Categories**

See section 2 for more information

**CWA (Clean Water Act)**

Not applicable

**Clean Air Act**

Not applicable

**OSHA - Occupational Safety and Health Administration**

Not applicable

**CERCLA**

Not applicable

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**15.2 U.S. State Right-to-Know Regulations:**

Not applicable

**U.S. Department of Transportation**

Reportable Quantity (RQ): N

DOT Marine Pollutant N

DOT Severe Marine Pollutant N



**U.S. Department of Homeland Security** - This product does not contain the any DHS Chemicals.

**Security**

**Other International Regulations**

**Mexico – Grade**

No information available

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
2,4-Imidazolidinedione, 1,3-dibromo-5,5-dimethyl-	77-48-5	Not applicable	Not applicable	Not applicable	Not applicable

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
2,4-Imidazolidinedione, 1,3-dibromo-5,5-dimethyl-	77-48-5	Not applicable	Not applicable	Not applicable	Not applicable

**SECTION 16: Other information**

**16.1 Prepared By:** Regulatory affairs  
Krishna Solvechem Limited  
**Email:** exports@kscl.co.in  
**Revision Date:** 24-jan-2024  
**Print Date:** 24-jan-2024  
**Revision Summary:** This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 C F R 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

**16.2 Disclaimer:**  
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.